

E	<code>cout << " x + y < z : " << (x + y < z) << endl;</code>	<code>X + y < z : 0</code>
---	--	-------------------------------

7. Suppose a, b, and c are int variables and a = 5 and b = 6. What value is assigned to each variable after each statement executes? If a variable is undefined at a particular statement, report UND (undefined). (9 points)

	a	b	c
<code>a = (b++) + 3;</code>	9	7	und
<code>c = 2 * a + (++b);</code>	9	8	26
<code>b = 4 * (++c) - (a++);</code>	10	99	27

Problem

8. Rewrite the following statement without using *= and ++ (pre-increment and post-increment), assuming that var, a, and b are integers. (5 points)

`var *= a++ - ++b;`

`var = var * a - (b + 1);`

`a = a + 1;`

`b = b;`

9. Rewrite the following statements using if statement: (6 points)

`int x = -1;`

`x ? x++ : --x;`

`x ? cout << x+1 : cout << x+2;`

`int x = -1;`

`if(x)`

`x = x++;`

`else`

`x = -x;`

`if (x)`

`cout << x+1;`

`else`

`cout << x + 2`

10. Write a complete C++ program that reads a number x and then calculates and prints the value of y according to the following equations: (12 points)

$$y = \begin{cases} x^2 - 1 & x \geq 10 \\ 1 & 0 \leq x < 10; \\ 1 - x^3 & x < 0. \end{cases}$$

```
#include <iostream>
using namespace std;

void main ()
{
    float x,y;
    cout << "Please Enter number x" << endl;
    cin >> x;
    if ( x >= 10)
        y = x*x -1;
    else
        if ( 0 <= x && x < 10)
            y = 1;
        else
            y = 1 - x * x * x;
    cout << "y = " << y << endl;
}
```

11. In the following code, correct any errors that would prevent the program from compiling or running: (rewrite the code). (12 points)

`include <iostream>`

`main ()`

```
{
    int a, b;
    bool found;
    cout << "Enter two integers: ";
    cin >> a >> b;
    if a > a * b && 10 < b
        found = 2 * a > b;
    else
    {
        found = 2 * a < b;
        if found
            a = 3;
            c = 15
            if b
            {
                b = 0;
                a = 1;
            }
    }
}
```

```
#include <iostream>

using namespace std;

int main ()
{
    int a, b, c, found;
    cout << "Enter two integers: ";
    cin >> a >> b;

    if (a > a * b && 10 < b)
        found = 2 * a > b;
    else
    {
        found = 2 * a < b;
        if (found)
            a = 3;
        c = 15;
        if (b)
        {
            b = 0;
            a = 1;
        }
    }

    return 0;
}
```

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